NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SHIP/LIGHTER/PLATFORM INTERFACE

JLOTS & LOGISTICS FROM THE SEA
R&D SYMPOSIUM
29 - 31 January 2002

Jason Chang
NAVSEA Carderock
(301)227-1400

NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface

- Objective
- Issues/Observations
- Status
- Deep Draft Composite Fender
- Design Features
- Sea Eagle Mooring System
  NSWCDD-CSS
- Questions

NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface

Objective:

Develop Sea State 3 capable docking and mooring systems for JLOTS lighters, ships and platfor

NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface

Issues/Observations

- Each scenario is different based on the type of watercraft, type of sealift ship, mooring position, and RRDF configuration and location relative to ship.
- Heave is most sensitive motion for watercraft (not roll).
- Lighter maneuverability and seakeeping varies with lighter type.
- Current fenders are not SS3 capable due to rupture, damage, and failure; gap between fenders; and size variations may not support ops (i.e., fenders roll onto low freeboard craft).
- Short mooring pendants cause snap loading and potential danger.
- Difficult to capture pendants with boat hooks.

NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface

LOTS Assets

SHIP	***RRDF***	***LIGHTER***	***BEACH***
T-ACS	NL	LCM-8	ELCAS - ELCAS(M) - NL
LMSR	MCS	Causeway - MCS - NL - JMLS	FCP - MCS - NL - JMLS
MPF	JMLS	LCU - 1610 - 2000	
FSS		LSV	
SEABEE/LASH			
Commercial			

NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface Program Status

FY00:

- **Brainstorming session for concepts**
- **Developed key criteria for evaluation of concepts**
- **Selected system(s) for further development**

FY01

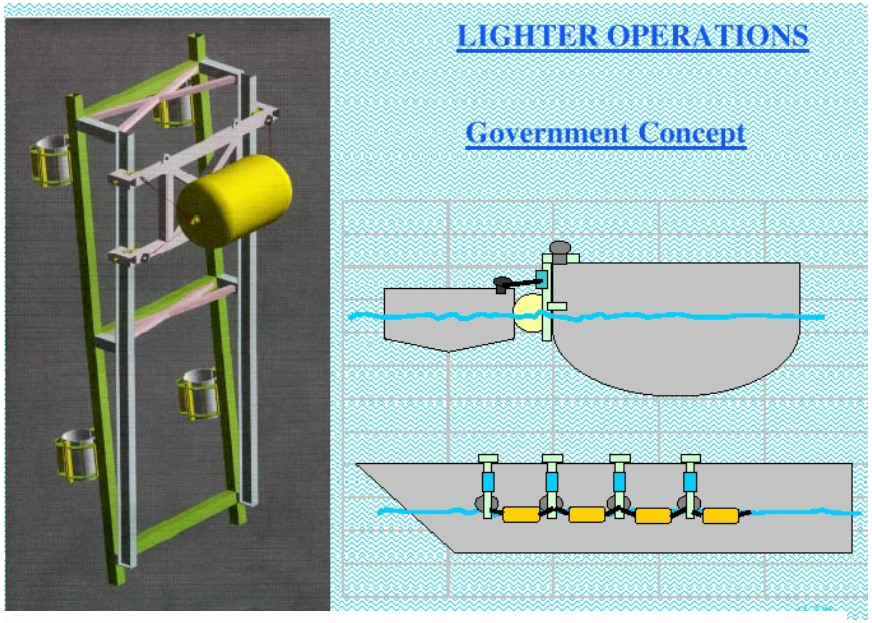
- **Vacuum pad mooring feasibility study completed by NSWCDD-CSS**
- **Preliminary design of DDCF**
- **Model test at Carderock**
- **Detailed design**

FY02

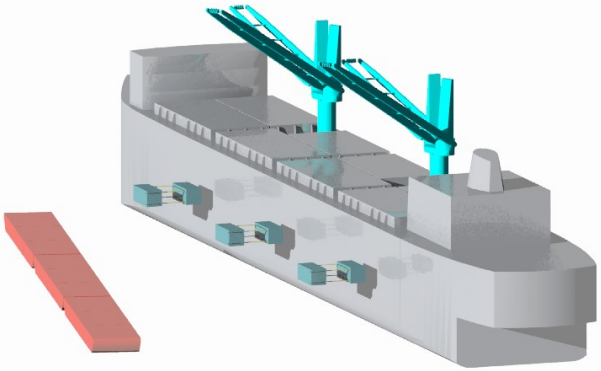
- **Prototype construction**
- **Full scale test**
- **Necessary modifications and report**

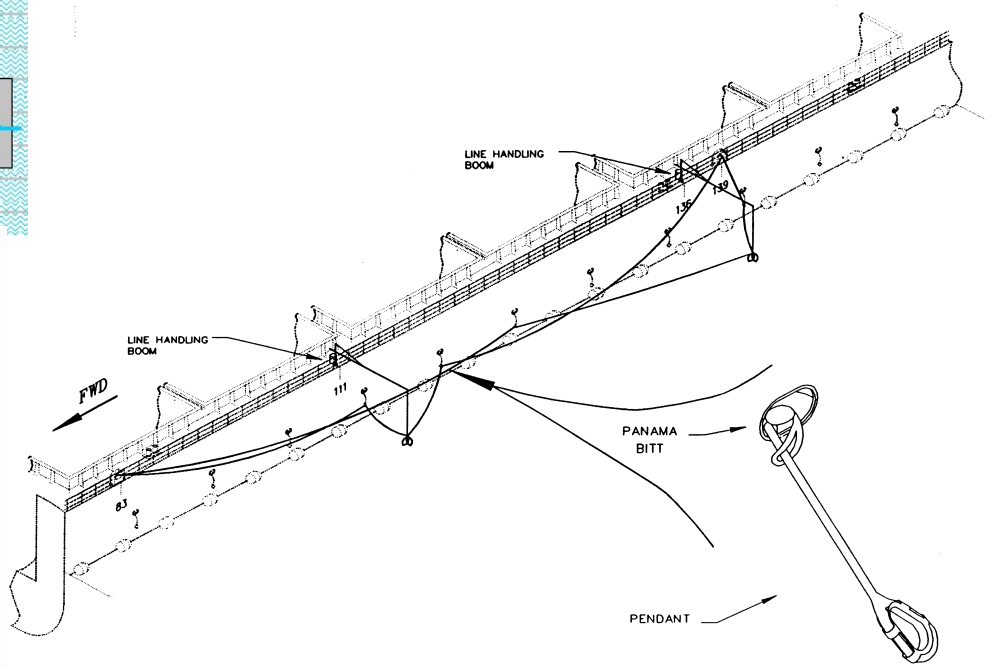
NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface



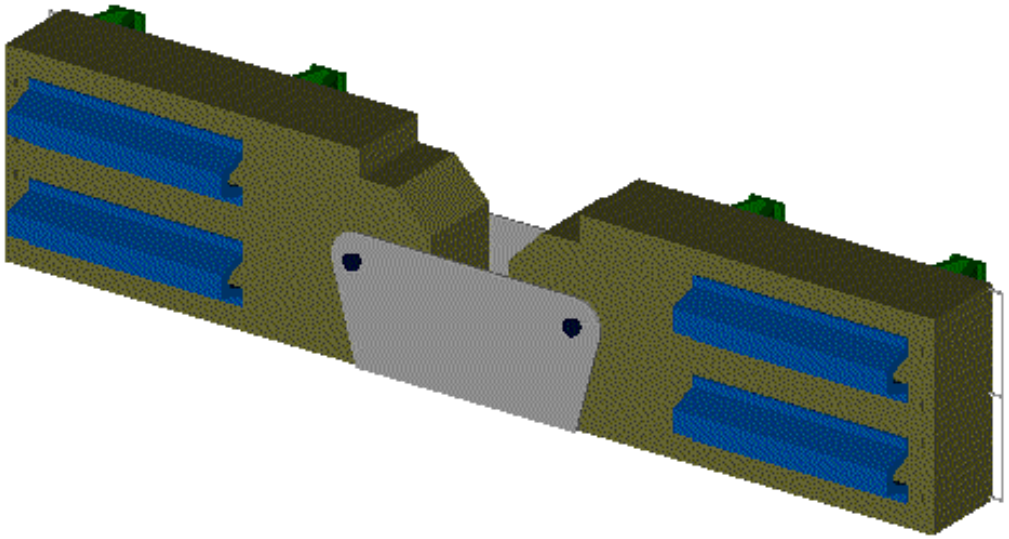
Interface Concepts

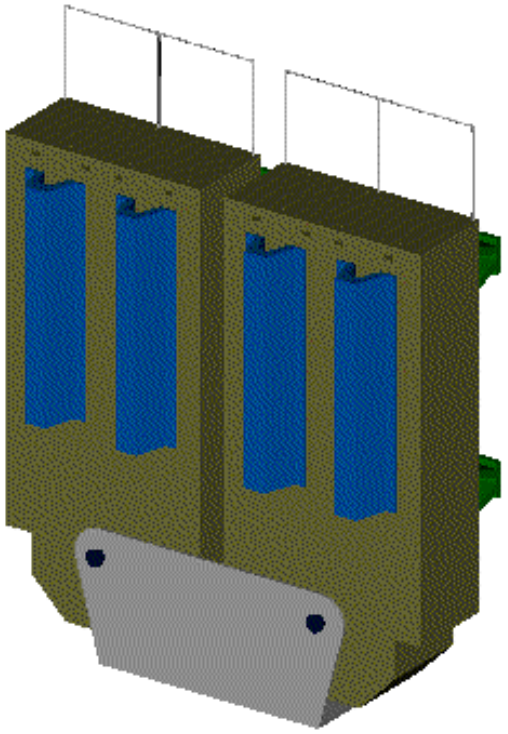




NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

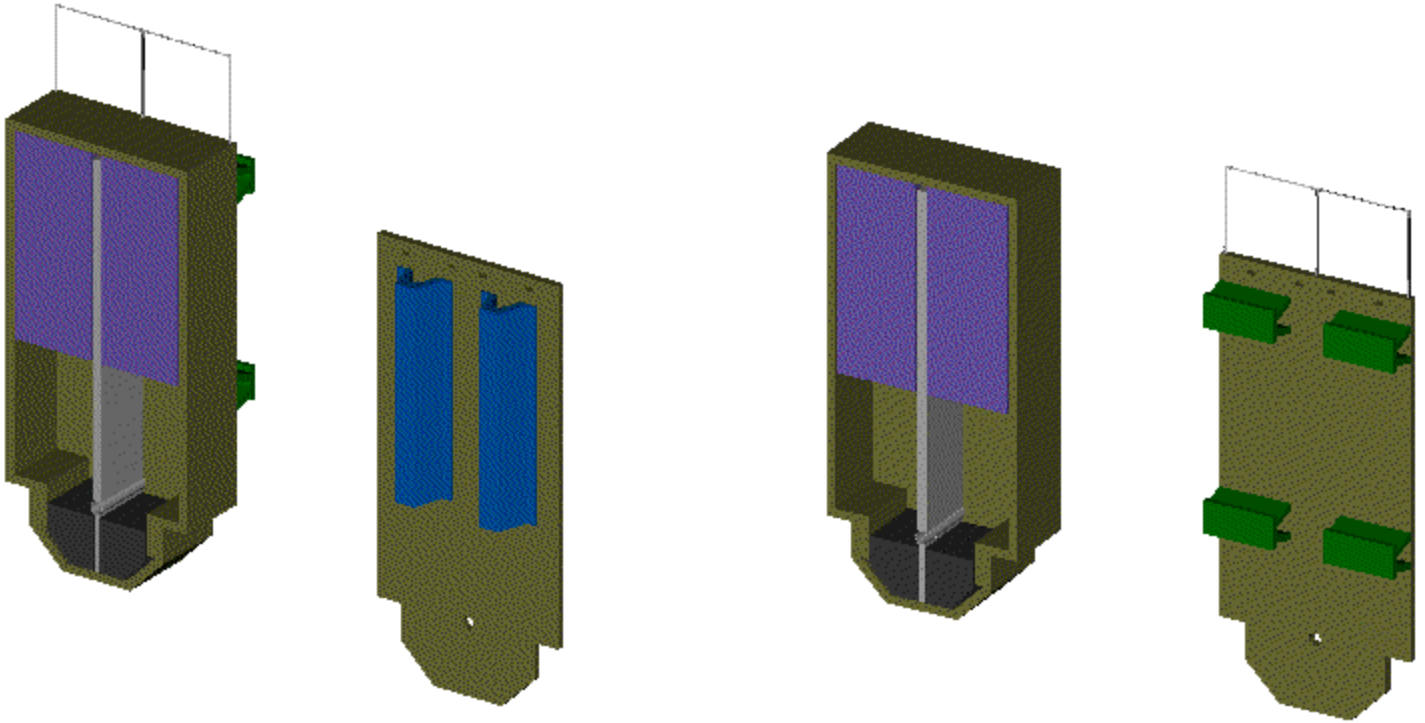
Deep Draft Composite Fender (DDCF)





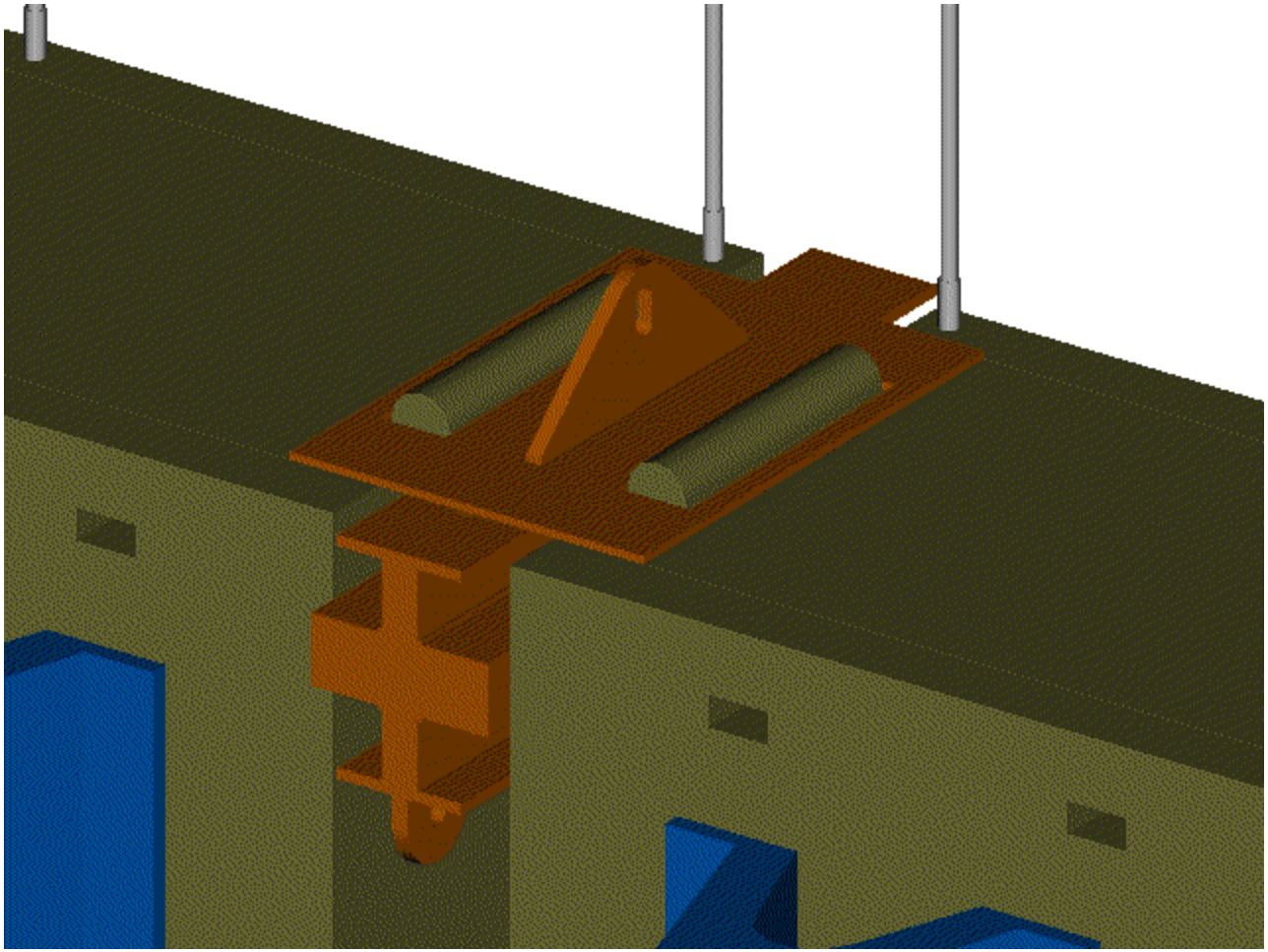
NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface



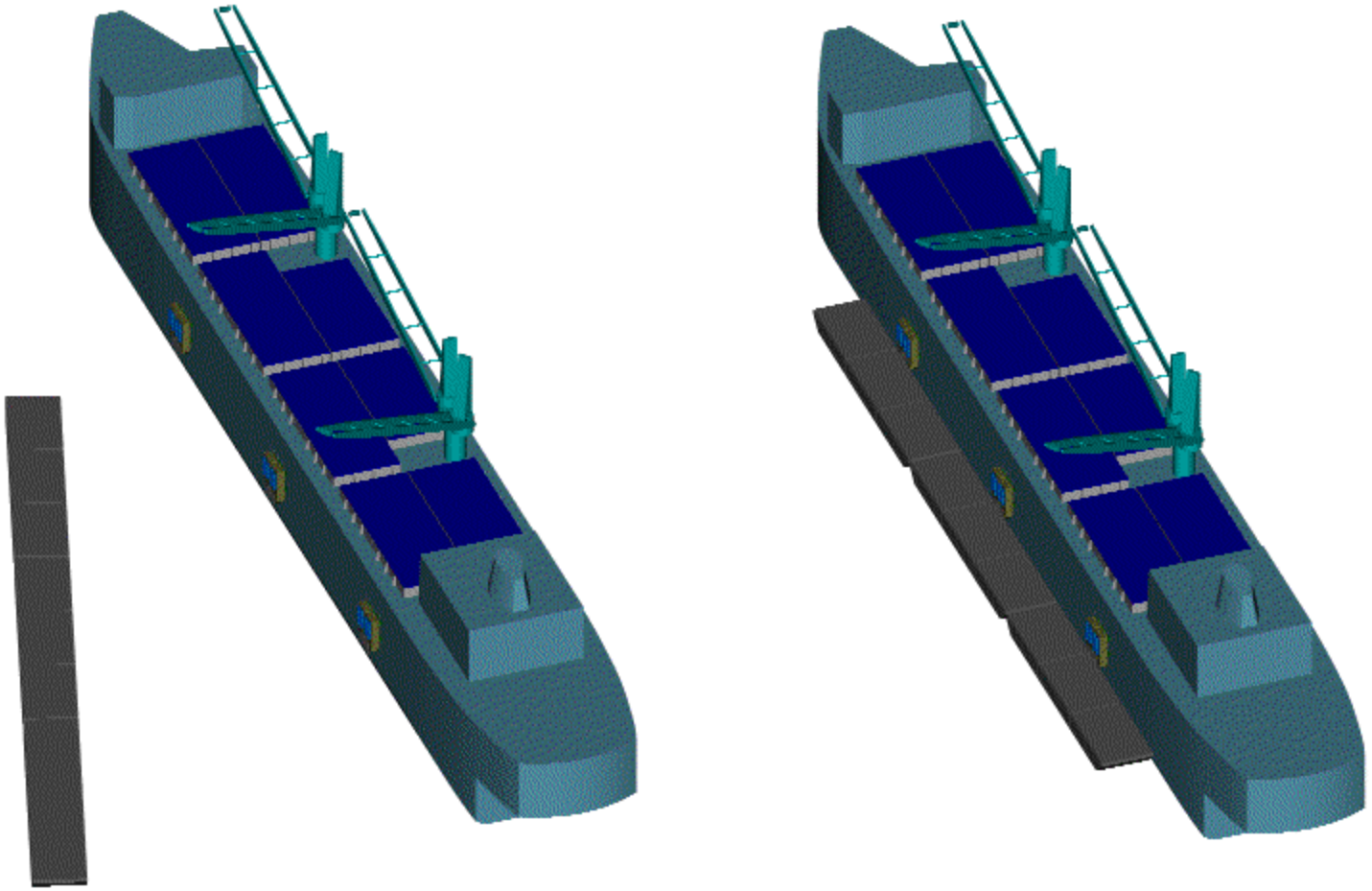
NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface



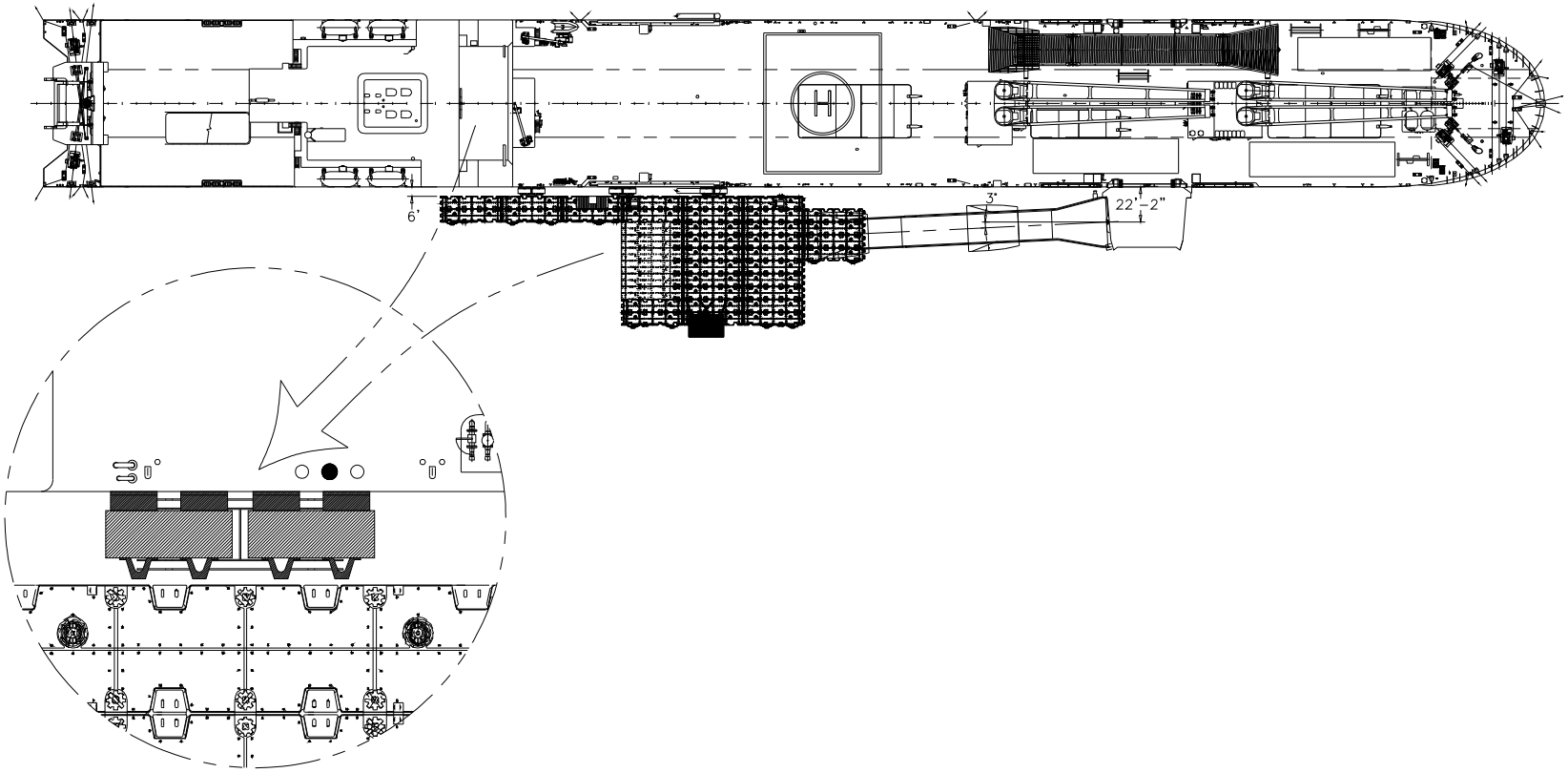
NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface



NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface



NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

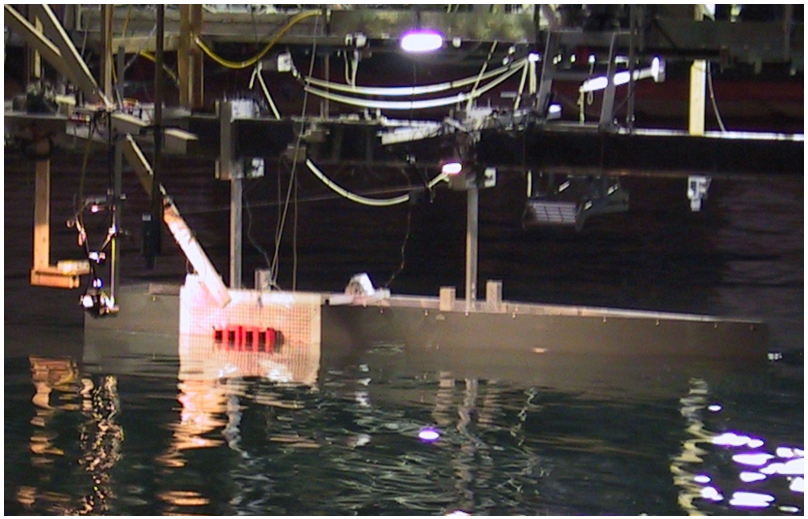
SLP Interface

DDCF Design Features

- Configured for multiple-sized lighters – up to LSV
- Accommodate large relative motions between lighter and ship
- Provide 6-foot standoff
- In accordance with NAVFAC handbook 1025/1
- High strength composite construction
- Corrosion resistant
- Deep draft / high inertia stability features
- Provide low pressure on hull of ship
- SS3 operability / SS5 survivability
- Unsinkable construction
- ISO compatible / Highway transportable
- Low life cycle cost
- Low maintenance

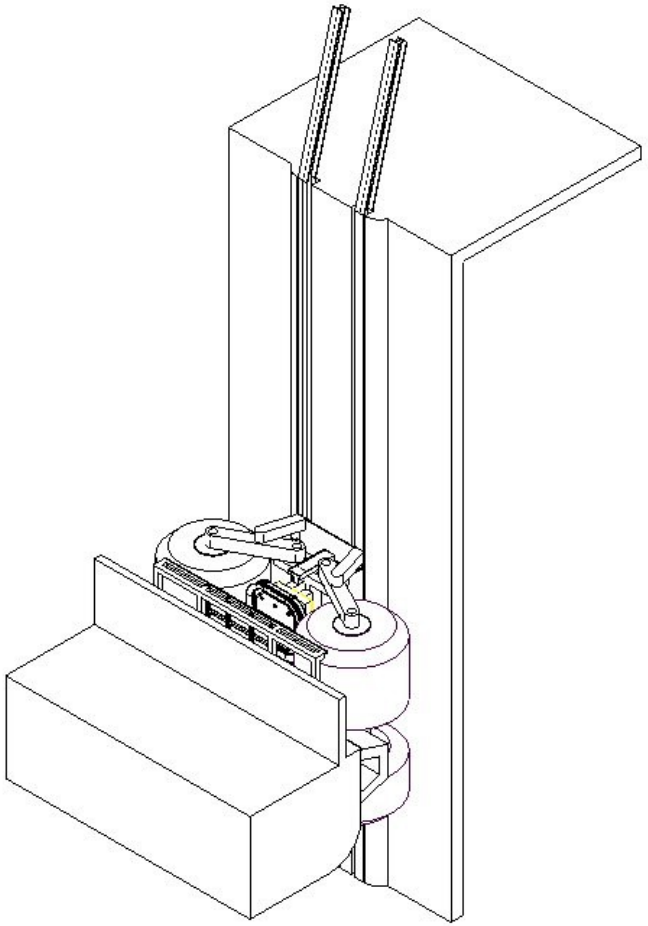
NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

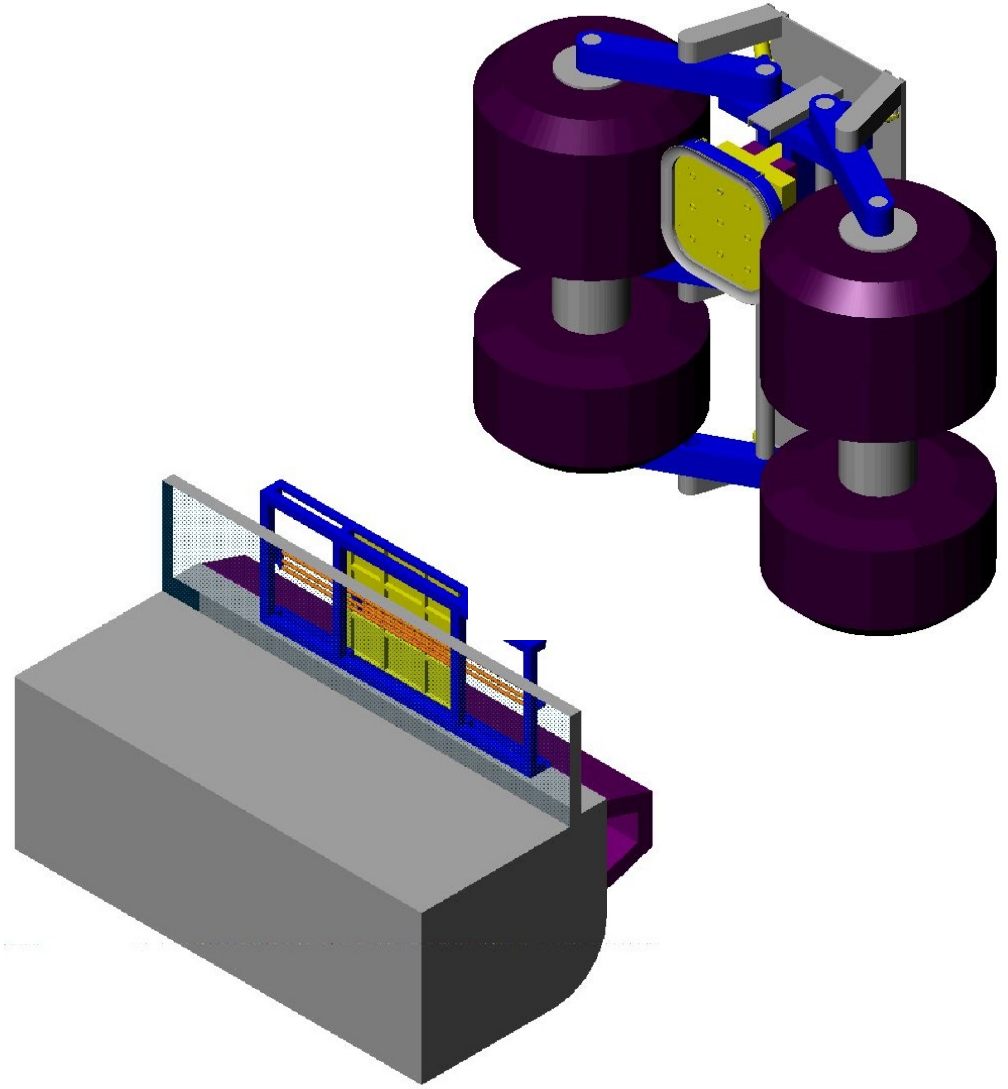
Model Tests



NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface - Sea Eagle Mooring





NAVSEA
NAVAL SEA SYSTEMS COMMAND
Carderock Division

SLP Interface

?